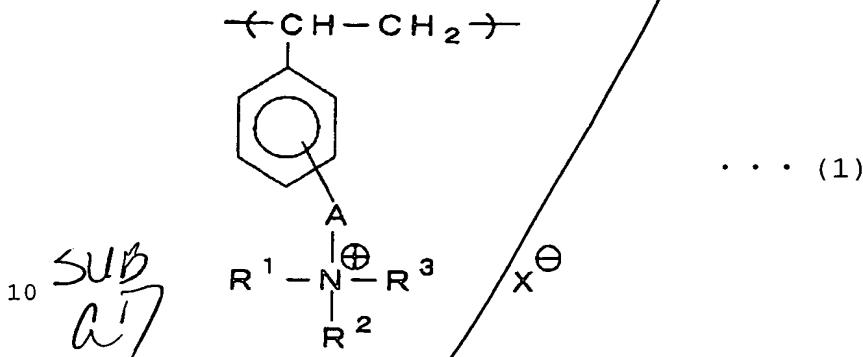


WHAT IS CLAIMED IS:

1. An anion exchange membrane comprising a resin phase which contains from 20 to 96 mass% of a polymer having repeating units represented by the following formula (1):

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wherein A is a C₃₋₈ alkylene group or an alkyleneoxyalkyl group having a total carbon number of from 4 to 9, each of R¹, R² and R³ is a hydrogen atom, a C₁₋₆ alkyl group or a hydroxyalkyl group, and X⁻ is an anion, and wherein any hydrogen atom bonded to the benzene ring may be substituted by an alkyl group or a halogen atom, and from 4 to 80 mass% of a thermoplastic polymer having no ion exchange groups, substantially uniformly.

20 2. The anion exchange membrane according to Claim 1, wherein the thermoplastic polymer having no ion exchange groups is a thermoplastic polymer having an unsaturated bond ratio in its main chain of at most 3%.

25 3. The anion exchange membrane according to Claim 1, which comprises the resin phase and a porous membrane-supporting material.

4. The anion exchange membrane according to Claim 3,

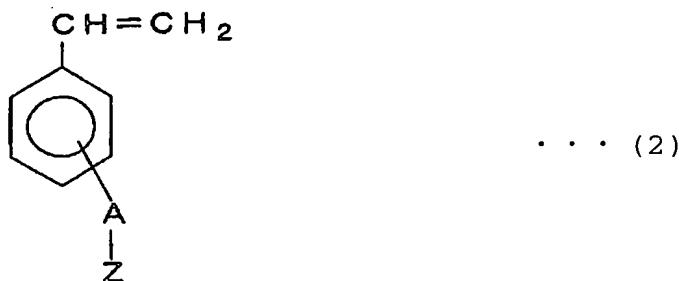
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wherein the polymer having repeating units represented by the formula (1) is penetrated in the porous membrane-supporting material, and the content of the repeating units represented by the formula (1) in the membrane-supporting material is from 0.05 to 0.7 time the content of such repeating units in the resin phase.

5. A process for producing an anion exchange membrane, which comprises mixing a thermoplastic polymer having no ion exchange groups with a polymerizable component

10 comprising a monomer of the formula (2):

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wherein A is a C₃₋₈ alkylene group or an alkyleneoxyalkyl group having a total carbon number of from 4 to 9, and Z is chlorine, bromine, iodine, a hydroxyl group, a tosyl group, a primary to tertiary amine, or a -NR¹R²R³ group, wherein each of R¹, R² and R³ is a hydrogen atom, a C₁₋₆ alkyl group or a hydroxyl group, and wherein any hydrogen atom bonded to the benzene ring may be substituted by an alkyl group or a halogen atom, or a mixture of the monomer of the formula (2) and a monomer copolymerizable therewith, and then polymerizing the polymerizable component.

6. The process for producing an anion exchange membrane

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according to Claim 5, wherein the monomer of the formula (2) is used in an amount of from 20 to 96 mass%, based on the total amount of the polymerizable component and the thermoplastic polymer having no ion exchange groups.

5 7. The process for producing an anion exchange membrane according to Claim 5, wherein the thermoplastic polymer is mixed with the polymerizable component by impregnating the polymerizable component to the membrane-form molded product of the thermoplastic polymer having no ion exchange groups.

10 8. The process for producing an anion exchange membrane according to Claim 5, wherein a solution obtained by mixing the thermoplastic polymer having no ion exchange groups with the polymerizable component, is formed into a 15 membrane, and then, the polymerizable component is polymerized.

9. The process for producing an anion exchange membrane according to Claim 8, wherein the solution obtained by mixing the thermoplastic polymer having no ion exchange 20 groups with the polymerizable component, is impregnated to a porous membrane-supporting material and formed into a membrane, and then, the polymerizable component is polymerized.

10. The process for producing an anion exchange membrane 25 according to Claim 9, wherein the porous membrane-supporting material is irradiated with electron rays or γ -rays before or when the solution obtained by mixing

the thermoplastic polymer having no ion exchange groups with the polymerizable component, is impregnated thereto.

11. A solution treating apparatus comprising an electrodialytic mechanism employing the anion exchange membrane as defined in Claim 1.

12. A solution treating apparatus comprising a diffusion dialytic mechanism employing the anion exchange membrane as defined in Claim 1.

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